

REMARKS/ARGUMENTS

The present application includes claims 1–36 and 38 are pending. Claim 37 was previously cancelled. In the outstanding Office Action, claims 1–38 are rejected. In this response, claims 1, 19, 33, and 36 are amended to clarify the invention. Reconsideration and allowance of claims 1–36 and 38 are respectfully requested in view of the above amendments and the following remarks.

Rejections under 35 U.S.C § 103(a)

Claims 1-10, 15-29, 32-36 and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,794,534 to Millheim (“Millheim”) in view of U.S. Patent No.6,456,092 to Streetman (“Streetman”).

“To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.” MPEP 2143.03, quoting *In re Royka*, 409 F. 2d 981 (CCPA 1974). In order to properly support an obviousness rejection, the USPTO must clearly articulate the reason(s) why the claimed invention would have been obvious at the time of the invention. MPEP 2142. The Supreme Court has ruled that the “teaching, suggestion, or motivation (TSM) test” still applies, but should be used in a more “expansive and flexible” manner. (*KSR Int’l. Co. v. Teleflex Inc.*, No 04-1350, 11 (U.S. Apr. 30, 2007)). The Court stated that “a patent composed of several elements **is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.** Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important

to identify a **reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.** This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.” (*Id.* at 14-15, *emphasis added.*)

It is submitted that the amendments to claims 1, 19 and 33 have clarified the distinctions of the present invention over Millheim and Streetman and render the objections moot. To the extent this rejection still applies, it is respectfully traversed.

Amended claim 1 requires transmitting a command from the offsite control center to a transceiver positioned in a wellbore wherein the command alters a trajectory of the downhole drilling tool. Neither Millheim nor Streetman, taken individually or together, teach or suggest transmitting a command from the offsite control center to a transceiver positioned in a wellbore wherein the command alters a trajectory of the downhole drilling tool as required by claim 1.

Millheim teaches a method for drilling a well using predictive simulations. Drilling data is transmitted to a database, and a monitoring facility may access the data to simulate future drill actions. Performing simulations helps determine the best corrective action to solve a problem. Once the best action is determined, it may be communicated to the wellsite “visually, audially, and/or graphically.” For example, “to provide audio communication at the well site, a rig floor microphone 37 and a rig floor speaker 38 are utilized.” See col. 8, lns 4-7. Most relevantly, “in the event that drilling or other operations at the well site are not proceeding as desired, then the engineer can be in immediate communication visually (face to face) and graphically, as well as audially with the monitoring facility to help make corrections. Col. 10, lns. 49-54. Therefore, Millheim actually teaches away from the present invention. Millheim teaches that commands

can only be transmitted at the wellsite. Millheim is unable to transmit commands from the offsite control center. In addition, Millheim teaches away from this by preferring that the well site engineer make such decisions.

Streetman fails to cure the deficiencies of Millheim. Streetman discloses a system for to control a production well – a well that has already been drilled and merely controls the flow of fluids to the surface. A local wellsite based controller device 100 is disposed adjacent to the well at the surface. The controller device 100 “is operably connected to a control valve 26 PDC 24 such that the controller software 110 enables opening and closing the control valve 26 to desired flow.” Col. 4, lns. 53-566. A remote controller device 200 is capable of transmitting a signal to controller device 100 to close and shut a control valve 26 in the well. See. Col. 5, lns 61-66. Streetman cannot possibly teach or suggest transmitting a command to change a trajectory of the downhole drilling tool as required by claim 1, because the well has already been drilled. Moreover, all the devices receiving signals, controlling devices as well as the devices being controlled are located at the surface. See Fig. 1. As a result, Streetman fails to disclose transmitting a command from the offsite control center to a transceiver positioned in a wellbore as required by claim 1. Even combining Millheim and Streetman in a light most favorable to the Examiner’s allegations, these references cannot teach or suggest transmitting a command from the offsite control center to a transceiver positioned in a wellbore, as neither reference individually discloses this limitation. Therefore, claim 1 is allowable for at least this reason over the references of record.

Similarly, claim 19, requires an offsite communication link between the wellsite transceiver and the offsite transceiver for passing signals therebetween. As previously mentioned, even taking all of the Examiner’s allegations of these references as true, the

combination fails to teach a transceiver positioned within a wellbore for passing signals. Therefore, these references also fail to render obviousness claim 19.

Claim 33, as amended, requires transmitting a command to automatically adjust drilling operation of at least one drilling tool from an offsite control center based on an analysis of the wellsite parameters at the offsite control center. Millheim teaches “[o]nce the simulations results are obtained, the engineer can determine whether or not this particular corrective action will solve the problem or not.” Col. 11, lns. 4-6. Accordingly, Millheim teaches away from transmitting any command from an offsite control center as well as from any automatic adjustment. Only a wellsite engineer at the wellsite issues commands and makes adjustments. Millheim teaches that human interaction is the best way to solve drilling problems. Streetman, at best, teaches controlling a valve positioned at the surface of a production well. Streetman cannot disclose transmitting a command to adjust drilling operation, because the well of Streetman has production tubing and is no longer being drilled. Therefore, Streetman only teaches that after a well is drilled, valves at the surface may be controlled from offsite. The combination of Millheim and Streetman teaches making drilling decisions at the well and making production control decisions remotely.

Moreover, it is unclear why a person having ordinary skill in the art would combine Millheim with Streetman when Millheim teaches away from transmitting command signals from offsite or making any adjustments automatically. Section 103 states that a patent may not be obtained if the invention would have been obvious “at the time the invention was made.” It is this phrase that guards against entry into the “tempting but forbidden zone of hindsight.” *In re Dembiczak*, 175 F.3d 994, 998–99 (Fed. Cir. 1999) (quoting *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 873 (Fed. Cir. 1985)). “[T]he best defense against the subtle but powerful attraction of

hindsight-based obviousness analysis is a rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.” *Id.* at 999. “Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor’s disclosure as a blueprint for piecing together the prior art to defeat patentability — the essence of hindsight.” *Id.* It is for this reason that the invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art at the time the invention was made. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138 (Fed. Cir. 1985).

The evidence of a suggestion, teaching, or motivation to combine references may come from the references themselves, the knowledge of a person having ordinary skill in the art, or the nature of the problem to be solved. *In re Dembiczak*, 175 F.3d at 999. There exists no motivation to combine Streetman with Millheim. There is no teaching in either reference that Millheim, which is directed to using a predictive simulation while drilling a well, should be combined with Streetman, which is concerned with controlling a production well where no drilling is taking place. The Examiner has merely located a drilling reference and combined it with a remotely controlled production well to recreate Applicant’s invention and allege that it is obvious. The fact that both references relate to well does not provide a teaching, suggestion or motivation. The Examiner cannot disregard that Millheim actually teaches away from any commands or signals being transmitted from offsite. Millheim specifically retains these for the wellsite engineer at the rig. Thus, the combination of Milheim and Streetman constitutes impermissible hindsight reconstruction.

Claim 36 requires collecting wellsite parameters from a first wellbore and a second wellbore and determining and automatically transmitting a drilling command in response to these wellsite parameters. Nowhere does Millheim nor Streetman disclose automatically transmitting

a command based on parameters from more than one wellbore. Streetman teaches away from use of any data from more than one well. Streetman only controls flow valves of a single well, and as such, it is irrelevant what flow rates are occurring at another well. Moreover, Millheim, which discloses human intervention at the wellsite, does not anticipate claim 36, and claim 36 is allowable over Milheim.

Claims 2-10, 15-18, 20-29, 32, 34, 35 and 38 depend directly or indirectly from independent claims 1, 19, 33, and 36 and each add at least one additional limitation thereto. These claims are allowable for at least the same reasons set forth above with respect to claims 1, 19, 33 and 36.

Claims 11-14, 30 and 31 stand rejected as being obviousness over Millheim in view of Streetman and further in view of Alvarado. These claims depend directly or indirectly from claims 1 or 19 and each adds an additional limitation thereto. These claims are allowable for at least the same reasons set forth above with respect to claims 1 and 19.

Conclusion

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. Applicant believes this reply to be fully responsive to all outstanding issues and place this application in condition for allowance. If this belief is incorrect, or other issues arise, do not hesitate to contact the undersigned at the telephone number listed below. Please apply any charges not covered or any credits, to Deposit Account 19-0610 (Reference Number 19.0372).

Respectfully submitted,

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